



## inside

### HEALTH

Kirk U.S. Army Health Clinic reminds of the benefits of quitting tobacco and services available to community during Great American Smokeout.

**Tobacco | A2**

### SERVICE

Army Community Service's annual Angel Tree program returns this year, giving Team APG the chance to help military families in need during the holiday season.

**Angel | A3**

### VETERANS

A Bel Air resident and Vietnam-era veteran who dedicates herself to helping other vets was recently appointed to the Maryland Veterans Commission by Governor Larry Hogan.

**Bel Air | A6**

## newsbrief

### NATIVE AMERICAN HERITAGE MONTH

**ASSISTANT SECRETARY OF THE ARMY, MANPOWER & RESERVE AFFAIRS**

National Native American Heritage Month is observed each year to celebrate and recognize the accomplishments of this country's original inhabitants, explorers and settlers. Throughout the Army's history, Native Americans have served valiantly and with distinction in times of peace and war, while also fighting for the right to be an equal part of the nation. We recognize their rich heritage and honor their spirit and true devotion to this land. This year's theme is "Serving Our Nations."

Today, more than 4,000 Soldiers of American Indian or Alaska Native descent serve in the Army. They are valued members of the Army team who continue a long legacy of professionalism, selfless service, dignity, and respect.

Collectively, the Army knows there is strength in diversity. In celebrating National Native American Indian Heritage Month, the Army recognizes that their rich heritage is a part of the diversity that this nation and the Army values.

## online



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U.S. ARMY PHOTO BY YVONNE JOHNSON, APG NEWS

Maj. Gen. Kirk F. Vollmecke (left), Program Executive Officer for Intelligence, Electronic Warfare and Sensors, or PEO IEW&S, and Kevin King, senior vice commander of Aberdeen Veterans of Foreign Wars Post 10028, approach the memorial wall with a "Wreath For the Future" during the 2016 Veterans Day Ceremony in the City of Aberdeen Nov. 11, 2016.

## Remembering the nation's veterans

Aberdeen ceremony honors veterans past, present

**BY YVONNE JOHNSON**  
APG News

ABERDEEN, Md. — Guests at the 2016 Veterans Day Ceremony in the City of Aberdeen were challenged to remember the

nation's veterans and ensure the care of service members and their families during and after their service. The annual ceremony, held at Veterans Memorial Park, is hosted by Aberdeen Veterans of Foreign Wars Post 10028; Bernard L. Tobin American Legion Post 128; and Korean War Veterans Chapter 271.

The guest speaker, Maj. Gen. Kirk F. Vollmecke, Program Executive Officer for Intelligence, Electronic Warfare and Sensors,

or PEO IEW&S, shared a message that supported the program theme: "Honor and remember the brave veterans for serving our country and protecting our freedoms."

Vollmecke said Veterans Day is, "a day to honor not just those who have fought for us in battle, but all of the outstanding men and women who have served our nation's armed forces since its founding more than 237 years. See **VETERANS**, page A7

## RDECOM ceremony highlights veterans

**BY LAUREN FINNEGAN**  
APG News

The U.S. Army Research, Development and Engineering Command, or RDECOM, presented a Veterans Day Remembrance Ceremony at the APG North (Aberdeen) recreation center Wednesday, Nov. 9.

RDECOM Chief of Staff, Col. Raymond K. Compton, hosted the event, which included the singing of the national anthem by Edgewood Chemical Biological Center Associate

Director Michelle Goddard and a prayer by RDECOM Command Chaplain Lt. Col. Jeffrey Dillard.

The guest speaker, retired Maj. David A. Yensan, who served two tours as a helicopter pilot in Vietnam talked about his 20 years of service in the Army. Those 20 years, he said, changed him from a kid who only knew how to "shovel snow" and "milk cows," to the accomplished man that he is today.

"I came to the Army with nothing to offer, [and] in 1981, I retired as a major with a Master

of Arts [degree]. It's a place where you can advance, [like] no other country allows."

Amy Clawiter, a military spouse brought her two young sons to the event. She said she thought it was important for them to recognize the day as well.

"I just feel like our children need to know the sacrifices that all these men and women have made... "I feel like [on] Veterans Day we shouldn't just remember and honor them, it should be all the time," she said. See **OBSERVANCE**, page A7

## Thunder riders flag APG cemeteries for Veterans Day

Sgt. 1st Class Glominio De Leon (far left), of the Research, Development and Engineering Command, distributes flags and provides instructions to Thunder Ride participants at the APG South (Edgewood) cemetery Nov. 9, 2016.

A group of Soldier and civilian riders led the installation's Veterans Day observances with the flagging of graves at the APG North (Aberdeen) and APG South cemeteries. De Leon led the event that began on APG South, then proceeded with a police escort from the APG Directorate of Emergency Services along U.S. Route 40 to APG North where APG Garrison Commander Col. James E. Davis and Command Sgt. Maj. Toese Tia Jr. greeted the riders. RDECOM Command Chaplain Lt. Col. Jeffrey Dillard led prayers for the fallen at each site.



U.S. ARMY PHOTO BY YVONNE JOHNSON, APG NEWS

## index

**By the Numbers | B2**

**All Things Maryland | A5**

**Mark Your Calendar | A8**

**MWR Events | A8**

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STREET TALK

Why are you proud to be an American?

Just because of all the freedom we have living in this great country, and without all ther service of the military, we wouldn't have that.



Michael Garrett  
Family Member

It's human nature. You're proud of where you're from and what you do.



Howard Reed  
Navy Veteran

You just can't beat out way of life. I've been around the world in 42 coun-tries, and you can't beat the good ol' USA.



Kenneth Miller  
Retiree

We have so many opportunities, and I see how people in other countries... are treated. It's just unbelievable that a lot of people don't think about what we have.



Nancy Polk  
Retiree

I've always been proud to be an American. Fought for my country, whether it was a good war or not. I still wanted to make sure everyone was secure when I got home.



Jim Welzenbech  
Navy Veteran

Tobacco cessation resources available

BY RACHEL PONDER  
APG News

During the Great American Smokeout, Thursday, Nov. 17, millions of Americans are challenged to quit or plan to quit smoking. The event, held every year on the third Thursday in November, also pro-motes the numerous free resources avail-able to help people quit using cigarettes and other forms of tobacco products.

According to the Centers for Disease Control and Prevention, or CDC, an estimated 40 million adults in the U.S. currently smoke cigarettes. It is the leading cause of preventable disease and death in the U.S., accounting for more than 480,000 deaths every year.

Smoking accounts for at least 30 percent of all cancer deaths, according to the American Cancer Society. Smoking is also associated with conditions ranging from colds and allergies to asthma, chronic bronchitis, emphysema and heart disease.

The CDC promotes the health benefits of tobacco cessation including:

- Lowered risk for lung cancer and many other types of cancer
- Reduced risk for heart disease, stroke and peripheral vascular disease
- Reduced respiratory symptoms, such as coughing, wheezing, and shortness of breath
- Reduced risk of developing lung dis-eases
- Reduced risk for infertility in women of childbearing age

Resources for TRICARE beneficiaries

According to Public Health Nurse Sue Singh, with Kirk U.S. Army Health Clinic, or KUSAHC, research indicates people are more successful at quitting tobacco when they have support.

Tobacco products contain the addictive drug nicotine, which is absorbed into the bloodstream when the product is chewed, inhaled, or smoked. According to the CDC, nicotine may be as addictive as heroin, cocaine, or alcohol.

“If you are addicted to something, you need support, encouragement. It's like a journey, and you need someone to cheer you on,” Singh said. “Doing it alone is very difficult.”

KUSAHC provides free, confidential one-on-one counseling for TRICARE ben-eficiaries.

“We are lucky that we can provide very individualized care,” said KUSAHC Public Health Nurse Kirsten Anke. “We can customize to the individual.”

Anke said patients often struggle with their weight when they stop smoking. She said she refers patients to the Army



MAYO CLINIC/TNS

Smoking is the leading cause of preventable disease and death in the U.S., accounting for more than 480,000 deaths every year, according to the Centers for Disease Control and Prevention, or CDC.

Wellness Center, on the third floor, which provides free health and physical fitness assessments, metabolic testing, nutrition counseling and weight loss management to Soldiers, retirees, family members and Army civilians.

TRICARE beneficiaries are also eligible to receive one-on-one phone sessions with trained counselors through the Freedom Quitline at 1-844-426-3733. Enrolled partic-ipants will receive an eight week supply of free nicotine replacement therapy, or NRT, sent directly to their homes. Three months later, participants will be contacted to check in regarding their smoking status. If they are smoking, they will be given a second chance to quit.

Other resources

The Harford County Health Depart-ment provides free classes to tobacco users. Nicotine patches, lozenges or gum may be available at no cost to those who qualify. For further information or to register, call 410-612-1781 weekdays between 8 a.m. and 4:30 p.m.

The National Cancer Institute website, www.smokefree.gov offers a variety of free resources. Individuals can chat with a NCI LiveHelp information specialist, Monday through Friday, 8 a.m. to 11 p.m., or call 877-448-7848 Monday through Friday, 8 a.m. to 8 p.m. Those who wish to quit can also sign up for a free texting program, SmokefreeTXT, to receive encouragement, advice, and tips.

Additionally, free smart phone applica-tions like the QuitGuide and quitSTART are available for iPhone and Android users.

A success story

Logistics Management Specialist George Davis, with the U.S. Army Research, Development and Engineering Command, smoked for 29 years before successfully quitting in 2009.

“I would smoke up to two packs a day,” he said. “I was addicted, I wanted to smoke all the time.”

A military retiree, Davis said he would often smoke to help him cope with stress. Receiving counseling at KUSAHC while



U.S. ARMY PHOTO BY RACHEL PONDER, APG NEWS  
George Davis

taking medication made the difference, he said.

“She [Singh] is very understanding, very patient,” he said. “She was not judgmental, and gave me an open invitation to keep trying.”

Becoming a father gave him the motiva-tion quit smoking for good, he added.

“I wanted to be a good role model for my son,” he said.

Davis said walking with his wife helped him combat stress. Having a supportive family member or friend helps, he said.

“She was 100 percent behind me quit-ting,” he said. “My wife loves [that I gave up smoking], because my clothes don't smell like cigarettes.”

He said he is determined to never picking up a cigarette again.

“I am very grateful that the Army had this program,” he said.

KUSAHC smoking cessation event

KUSAHC will host a tobacco cessation “turkey bowl” event at the APG Bowling Center Nov. 22. The event is open to smokers who pledge to stop smoking for a day. Participants will have the opportunity to win a free turkey. Registration is required and spaces are limited. To register, call 410-278-1771 or 410-306-1024.

POLICE & FIRE BLOTTER

The following statistics were provided by the APG Directorate of Emergency Services, recapping the fire, medic and police responses, issued citations and arrests made during the month of October.

CALLS FOR SERVICE

FIRE: 61

- Fire Alarms – 19
- Mutual Aid\* – 12
- Watercraft Emergencies – 0
- Fire Drills – 30

MEDIC: 1

- Mutual Aid\* – 0
- Chest Pains – 1
- Breathing Problems – 0

POLICE: 175

- Alarm Activation – 145
- 911 Hang-ups – 20
- Traffic Accidents – 10
- Active Warrants – 0

\*Mutual Aid often involves incidents off post in the local community.

CITATIONS

TOTAL: 172

- Warning Citations – 92
- Non-Warning Citations – 80

INCIDENTS/ARRESTS

TOTAL: 8

- Traffic Related – 0
- Warrant Arrests – 3
- Domestic Related – 1
- DUI/Alcohol Related – 0
- Drug Related – 4

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# Angel Trees provide holiday help for military families

**BY RACHEL PONDER**  
APG News

This holiday season, the Angel Tree Program, an annual gift-giving program hosted by Army Community Service, returns with the chance for members of Team APG to give back to military families.

Through the Angel Tree Program, enlisted Soldiers assigned to APG with the rank of staff sergeant or below are eligible to receive gifts of toys or clothing for their children.

“It’s a good way to give back to your community and the Soldiers,” said ACS Volunteer Coordinator Sarah Polanco.

According to Polanco, each tag on an Angel Tree includes a military child’s gender, age, clothing size and desired toy.

Those who wish to donate can pick an angel off a tree, purchase a gift and place the unwrapped gift with the tag attached, in a barrel at any Angel Tree location.

“Individuals are encouraged to spend no more than \$25 for each angel they choose,” Polanco said.

Angel Tree locations include the Commissary, the Post Exchange, Bldg. 6002, Bldg. 2503 and the Hoyle Gym located on APG South (Edgewood).

“If organizations or units want to adopt more than one family, they can reach out to me,” Polanco said. “We hope that we have many donations for our APG families this year.”

The gifts will be collected through Dec. 9 and unit commanders and first sergeants will pick up gifts for their Soldiers at the Top of the Bay Dec. 15 and 16.

Eligible enlisted soldiers who may need assistance this holiday season must request a



participation nomination through their unit leaders.

For more information, email Polanco at sarah.polanco.civ@mail.mil, or call 410-278-2464.

Travis Johnson, with Child, Youth and School Services, selects an “angel” from the Angel Tree located in the Army Community Service lobby, Bldg. 2503. The Angel Tree Program provides Team APG with the opportunity to give gifts to military children.

U.S. ARMY PHOTO BY RACHEL PONDER, APG NEWS

5

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3. Save the counter from a gluey, glittery mess during your next craft project.
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# ALL THINGS MARYLAND

An APG News original series exploring the history, cultural oddities, well-documented and lesser-known points of interest, and travel destinations that call the Old Line State home.

# Sauerkraut at Thanksgiving? Only in Maryland

**BY LAUREN FINNEGAN**  
APG News

On the fourth Thursday of November every year, family and friends around the nation gather together to count their blessings and to stuff themselves full. Turkey, stuffing, corn, mashed potatoes, and pumpkin pie are just some of the traditional dishes that make their way onto Thanksgiving dinner tables. For many in Maryland, however, Thanksgiving wouldn't be complete without a "big ol'" helping of sauerkraut.

Locals wouldn't consider a Thanksgiving feast complete without bowls of stringy, fermented cabbage gracing the table and the tangy smell filling the air.

Many historians believe that sauerkraut found its way onto Maryland Thanksgiving tables due to the great German influence in the city in the 1800s. German immigrants came to Baltimore in droves, and by 1863, the year President Lincoln declared Thanksgiving to be a national holiday, one quarter of Baltimore residents claimed to be of German descent.

While Sauerkraut is thought to have originated in Germany, historians believe that it was actually a Chinese invention that dates back at least 2,000 years ago. The laborers who built the Great Wall of China ate it daily.

Mongol Explorer Gengis Kahn supposedly brought sauerkraut to Europe, and shortly after, it became a staple of German cooking, and a traditional dish served with pork on New Year's day thought to bring blessings and wealth.

Regardless of its origin, native Marylanders love sauerkraut, and during the Thanksgiving season, they are 14 times more likely to search for sauerkraut recipes than the rest of the country, according to The New York Times.

Military Spouse Crystal Parker said she hasn't known a Thanksgiving without sauerkraut. Originally from Lutherville, Maryland, Parker said she remembers her grandmother preparing annual Thanksgiving feasts with her mother and aunts.

"We always knew when dinner was almost ready because we could smell the sauerkraut," she said, adding that she still uses her grandmother's recipe and she plans to pass on the tradition of making the



U.S. ARMY PHOTOS BY AMBURREE REESE

APG Garrison Public Affairs Specialist Amburr Reese sets aside cabbage, sea salt, and all the tools needed to make homemade sauerkraut for her Thanksgiving dinner. "With a little research, a clean kitchen counter, and the right ingredients, anyone could put it together," Reese said.

dish to her children.

"[Thanksgiving] dinner is not complete unless sauerkraut is part of it," she said. "It has been a tradition in my family for years, so I'm going to keep it going as long as I can."

While many who are not native Marylanders may not be open to the idea of sauerkraut on the Thanksgiving table, Rachel Armistead and her husband Luke Flessner, owners of Sweet Farm Sauerkraut in Woodsboro, Maryland, think it pairs well with traditional Thanksgiving foods.

"Think of your typical Thanksgiving plate: carrots, sweet potatoes... all this heavy

food. Pairing that sauerkraut, which is fresh and crunchy... balances... and refreshes your palate," Armistead said.

Armistead emphasizes the health benefits associated with the dish, especially its being a "great" digestive aid.

She said when someone is feeling too full to continue eating, "A little shot of sauerkraut will move you through to the next course."

Cooks looking for a new side dish to add to their Thanksgiving table, should look no further than that jar of sauerkraut, she added.

Sources:  
[http://www.nytimes.com/interactive/2014/11/25/upshot/thanksgiving-recipes-googled-in-every-state.html?\\_r=1&abt=0002&abg=1#massachusetts](http://www.nytimes.com/interactive/2014/11/25/upshot/thanksgiving-recipes-googled-in-every-state.html?_r=1&abt=0002&abg=1#massachusetts)

## Sauerkraut and Apples

From "Chesapeake Bay Cooking" by John Shields

### INGREDIENTS

- 6 tablespoons butter
- 4 slices bacon, cut into ½-inch pieces
- 1 small onion, thinly sliced
- 3 tart apples, such as Stayman, Pippin, Granny Smith, or Jonagold, peeled, cored, and thinly sliced
- 2 pounds sauerkraut, drained and rinsed
- 1 bottle (12 ounces) beer (you may substitute apple cider)
- Black pepper, to taste
- ½ teaspoon caraway seeds

### STEP 1

Melt butter in a large heavy pot over medium-high heat. Add bacon and cook, stirring often, until fat has started to render, about 5 minutes.

### STEP 2

Toss onion and apples in the fat and cook, stirring occasionally, until onions begin to soften, about 3 minutes. Stir in sauerkraut.

### STEP 3

Add beer and season with pepper and caraway seeds. Bring mixture to a boil, then cover the pot. Reduce heat so mixture is just simmering and cook for 45 minutes. Or transfer the covered pot to a 350-degree oven and bake for 1 hour. Stir and serve hot.



Reese's sauerkraut ferments on a shelf in her home. An airlock was added to allow carbon dioxide gas to be released while preventing air and other impurities from reaching the cabbage. The average fermentation time is about four weeks.

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# Bel Air resident represents Maryland veterans

By Rachel Ponder  
APG News

A Vietnam era-veteran and retired nurse from Bel Air is ready and willing to help fellow veterans who need assistance.

Carolynn Baker, 69, is committed to connecting veterans with resources they need. She has volunteered more than 25 years in various veterans committees and leadership positions. Last month, she was appointed by Governor Larry Hogan to serve on the Maryland Veterans Commission. In this role, she represents female veterans in Maryland.

“It’s kind of cool,” Baker said of her newest endeavor.

She said that as commissioner, she hopes to get more visibility for female veterans.

“My goal is to get more recognition of female veterans,” she said. “Get more female veterans involved in Veteran Service Organizations, or VSOs, and get more female veterans to realize that they are equal to male veterans.”

According to Baker, many resources are available to veterans, but too many don’t know how to access them.

“I think veterans are extremely important. My dad [a U.S. Air Force retiree] was the greatest guy ever,” she said. “There are a lot of things [benefits] that are there for them, but they don’t know how to get them.”

## A history of leadership

On July 18, 2014, Baker became the first female elected as the commander of the American Legion Department of Maryland. Her responsibilities included representing about 63,000 legionnaires at official ceremonies. She called this position “a phenomenal honor.”

“It [the position] is about visiting the legions throughout the state,” she said. “It is about finding out what the concerns of the veterans are, how we can make things better for them and their families.”

She was also the first female veteran to serve as the commander of American Legion Harford Post #39.

According to Baker, these roles gave her the opportunity to help an “awful lot of people.”

“I think that is fabulous,” she said.

Baker is also an Honorary Life Member of American Legion Harford Post #39; Life Member of Disabled American Veterans Chapter #30; and Vietnam Veterans of America Chapter #588.



U.S. ARMY PHOTO BY RACHEL PONDER, APG NEWS  
Carolynn Baker, a Vietnam-era veteran, chats with Charlie Mason, a Vietnam veteran, at the American Legion Harford Post #39 in Bel Air. Baker was recently appointed by Governor Larry Hogan to serve on the Maryland Veterans Commission.

## Proud to serve

Baker said she learned about military service at an early age. Her father served in World War II, and the Korean and Vietnam wars. As a child, she lived on U.S. Air Force bases in Alaska, Germany and Panama.

“Most of my family members served in the military, she said.

Immediately after Baker graduated high school she joined the Women’s Army Corps, or WAC, and specialized in finance and accounting. What she enjoyed most about her experience in the Army was the

camaraderie, she said.

“Military [life] is the only life I ever really knew,” she said of her decision to join the Army. “And you didn’t have to worry about how much money you made, because they will give you a place to live, food and clothes.”

After serving in the Army for 18 months, Baker used the GI Bill for her college education and earned a bachelor’s degree in nursing from the University of Maryland. During her career, she served as a critical care nurse and a hospital supervisor with MedStar Franklin Square Medical

Center and as a public health nurse with the Harford County Health Department.

Now that she is retired, she spends most of her time helping active-duty military, veterans and their families.

“The definition of a veteran means many things to different people,” Baker said “They all served their country, and they all came out with a greater appreciation for what a veteran really is, whether they were in a short time or long time.”

Veterans who need assistance filing for VA benefits can email bakercarol@aol.com, or call 410-459-8870.

## Lions Club pays tribute to veterans



U.S. ARMY PHOTOS BY RACHEL PONDER, APG NEWS

APG Garrison Command Sgt. Maj. Toese Tia Jr. gives a speech during a District 22-A Lions Club social event, with the theme, “Honoring Our Brave Veterans,” held at the Richlin Ballroom Nov. 12, 2016. Tia called veterans a “beacon of hope.”

“American veterans continue to serve this country, this community, by making positive impacts, building stronger futures and inspiring future generations to come,” he said.

Below, members of the APG Sergeant Audie Murphy Club color guard from left: Sgt. Mark Chuisano, Sgt. 1st Class David Preciado, Staff Sgt. Oscar Orozco, Sgt. 1st Class Joseph Conway, all with the U.S. Army Test and Evaluation Command, present the colors.



## Lenig returns to hometown for Veterans Day



PHOTO BY JOE SYLVESTER, THE DAILY ITEM

Col. Kenneth Lenig, commander of the Army Materiel Systems Analysis Activity, returned to his hometown of Northumberland, Pennsylvania to serve as guest speaker at the Riverview Cemetery Veterans Day service Nov. 13, 2016.



# 20th CBRNE joins Baltimore in Veterans Day tribute



U.S. ARMY PHOTOS BY SGT. 1ST CLASS RICK SCAVETTA, 20TH CBRNE

Alongside fellow veterans, U.S. Army Col. Sven Erichsen (center) renders honors during a Veterans Day ceremony at the Maryland Korean War Memorial in Baltimore, Nov. 11, 2016. The 20th CBRNE Command operations officer served as one of the ceremony's guest speakers.



A color guard of Coast Guard cadets stands tall as Earl House, commander of Maryland Chapter 33, Korean War Veterans Association, (left) and Col. Sven Erichsen (right), operations officer at the 20th CBRNE Command, render honors to a memorial during a Veterans Day ceremony at the Maryland Korean War Memorial in Baltimore, Nov. 11, 2016.

## VETERANS

From page A1  
ago.”  
“The willingness and legacy of selfless service are part of our country’s tapestry and rich history,” he said. “We thank all of you who continue the great traditions of honorable service to our nation.”  
Noting that of the nation’s 21 million living veterans, about 430,000 reside in Maryland, Vollmecke added that he feels privileged to work on a daily basis with veterans employed at Aberdeen Proving Ground.  
He asked listeners to commit themselves to ensure Soldiers, veterans and their families have access to employment opportunities, education and health care during and after their service.  
“Tributes like this can ring hollow if we as a nation don’t take the necessary actions to ensure all our veterans have access to the care and resources they not only deserve but have earned,” he said.  
“All veterans have much to offer our great nation [and] all Americans are charged with the responsibility to ensure the service and sacrifices of all our veterans are not forgotten.  
The program included the playing of the national anthem and other patriotic music by the Aberdeen Middle School band led by Music Director Sue Hopkins; a memorial salute by Post 128 honor guard; the invocation and benediction by Dave Mial, Post 128 chaplain; and a wreath laying ceremony.

Ceremony guests included Aberdeen Mayor Patrick L. McGrady, Chief of Police Henry Trabert, Councilman Tim Lindcamp and VFW 5th District Commander Sam Washington. Organization commanders Robert L. Brown of Post 10028; Andy Powell of Post 128 and Nick Guerra of KWV 271 led the wreath-laying ceremony. Guests were invited to a luncheon at Post 10028 where a Vietnam Veterans Welcome Home ceremony followed.

The guest speaker, retired Command Sgt. Maj. Jimmie W. Spencer, a consultant for the U.S. Vietnam War Commemoration, presented Vietnam War Commemoration coins and certificates to 22 veterans in attendance. Vollmecke congratulated each one.

Afterward, guests and participants shared their thoughts about the observance.  
“The whole thing was beautiful and I enjoyed it,” said Vietnam-era veteran Kenneth D. Jimerson of Port Deposit. Jimerson said he lost a brother in Vietnam and he was glad to meet Vollmecke and shake his hand after the program.  
“I just appreciated what he said and I wanted to thank him for being here,” he said.

“I’m just proud of the men and women who served and the freedom they’ve given us to live the lives we do,” added Betty J. Stahm, president, VFW Auxiliary, Department of Maryland.  
Desert Shield/Storm veteran Al Sneed, commander of VFW Post 6054 in Perryman, who retired from Army field artillery after a 21-year career in 2001, said he never misses the chance to, “comes out to support all veterans.”

“People who served and fought for this country gave everyone else the freedom to grow and become leaders,” he said. “And we keep serving and setting the example. I like to say it takes a veteran.”

Eighty-year-old Thomas Burns Sr. of Aberdeen said he served in the Army Infantry in the 1950s and as one-time Aberdeen town commissioner.  
“I always come out here just to honor fellow vets,” he said. “On this day, this is the nicest place to be.”

## Crawford speaks at Perryville veterans observance



U.S. ARMY PHOTO BY LAUREN FINNEGAN, APG NEWS

On Nov. 11, 2016, APG Senior Commander, Maj. Gen. Bruce T. Crawford, delivers the key note speech at the Veterans Day ceremony held at the American Legion, Susquehanna Post 135, in Perryville. Crawford spoke about the value that our veterans have brought to the military and to our communities. “When they leave the service, they have something else that money can not buy... a high degree of character, a high degree of competence... and an absolute commitment to service... That’s what they bring to our communities,” he said.

## Bel Air honors American veterans



U.S. ARMY PHOTO BY ANGEL D. MARTINEZ-NAVEDO, 20TH CBRNE COMMAND

Col. Colin "Pat" Nikkila, 20th CBRNE command chief of staff, shakes the hand of a U.S. Marine Corps veterans during a Veterans Day ceremony at Bel Air Memorial Gardens hosted by American Legion Post 39.

## OBSERVANCE

From page A1  
Compton, who closed out the ceremony stressed the importance of what veterans have accomplished throughout American history.  
“The land of the free, the home of the brave, the beacon of hope; all these are just words,” Compton said. “And the only reason we have these words is because of the sacrifice of the veterans that we have here in our country.”



Want to make a difference in how services are rendered at APG? Tell us how we can improve, or provide kudos for great service, via the Interactive Customer Evaluation system at <http://ice.disa.mil/>. Click “Army” then “Aberdeen Proving Ground.” Or check us out on Facebook at <http://on.fb.me/HzQlow>. View the QR code to visit us immediately.



# MARK YOUR CALENDAR

## EVENTS & TOWN HALLS

### AMERICAN INDIAN HERITAGE MONTH OBSERVANCE

**NOVEMBER 17**  
Myer Auditorium, Bldg. 6000. 11 a.m.  
Theme is "Serving our Nations."  
Smithsonian Curator Dennis Zotigh will serve as guest speaker. Native American food tasting will follow the presentation.

### PHYSICALLY, MENTALLY & EMOTIONALLY HARD PHYSICAL CHALLENGE EVENT

**DECEMBER 9**  
Old Ordnance Museum field (corner of Harford and Maryland boulevards) at 7 a.m. Obstacle course event will include: crawling, climbing and navigating obstacles; team exercises; and team challenges like carrying equipment and building walls. Stay tuned for registration details.

### TRAVELING VIETNAM VETS EXHIBIT AT ABINGDON LIBRARY

**THROUGH JANUARY 2**  
Harford County will host the Maryland Public Television Salute to Vietnam Veterans Traveling Exhibit at the Abingdon branch of the Harford County Public Library. The 16-paneled exhibit features both current day and wartime images of 16 Maryland men and women along with their recollections of incidents during the Vietnam War. The Abingdon library branch, located at 2510 Tollgate R is open Monday and Wednesday 10 a.m. until 8 p.m.; Tuesday and Thursday, 1 to 8 p.m.; Friday and Saturday, 10 a.m. to 5 p.m. and Sunday, 1 to 5 p.m.

### AMERICAN INDIAN HERITAGE MONTH OBSERVANCE

**NOVEMBER 17**  
Myer Auditorium, Bldg. 6000. 11 a.m.  
Theme is "Serving our Nations."  
Smithsonian Curator Dennis Zotigh will serve as guest speaker. Native American food tasting will follow the presentation.

## MEETINGS & CONFERENCES

### DATA SCIENCE MEETUP

**NOVEMBER 28**  
Bldg. 6008, Room 10B; 11:30 a.m. to 12:30 p.m. Open to all APG professionals interested in data science. Will focus on machine learning, big data, models, analytics, computing and statistics. Brown bag lunch. For more information email [matthew.j.webb24.civ@mail.mil](mailto:matthew.j.webb24.civ@mail.mil); [Carolyn.e.stancoff.civ@mail.mil](mailto:Carolyn.e.stancoff.civ@mail.mil) or [louise.a.bomboyciv@mail.mil](mailto:louise.a.bomboyciv@mail.mil).

### FY17 GARRISON EEO FACE-TO-FACE TRAINING

**DECEMBER 7**  
Ball Conference Center, 9 to 10:30 a.m. and 1:30 to 3 p.m. Open to all garrison employees. For more information, contact Charles Gilmore at [charles.l.gilmore3.civ@mail.mil](mailto:charles.l.gilmore3.civ@mail.mil) or 410-278-0130.

### EEO/HR FOR IMCOM SUPERVISORS

**DECEMBER 8**  
Bldg. 3147, 8 a.m. to 4:30 p.m. Registration is required for IMCOM supervisors/managers assigned within last 90 days. For more information, contact Charles Gilmore at [charles.l.gilmore3.civ@mail.mil](mailto:charles.l.gilmore3.civ@mail.mil) or 410-278-0130.

## FAMILY & KIDS

### U.S. AIR FORCE HERITAGE OF AMERICA BAND PERFORMANCE

**NOVEMBER 16**  
APG Federal Credit Union Area at Harford Community College. 7 p.m. Free concert will have Veterans Day theme. Tickets are required for admission. Visit [tickets.harford.edu](http://tickets.harford.edu) or call 443-412-2211 to reserve a seat.

### THANKSGIVING LUNCH & ADVENT WREATH MAKING SOCIAL

**NOVEMBER 27**  
APG South (Edgewood) chapel, noon. For more information, contact Joyce Wood at 410-278-4333.

### PROTESTANT CHRISTMAS CANTATA FLYER

**DECEMBER 11; 15; 18**  
Dec. 11, APG Main Post Chapel at 10:15 a.m.; Dec. 15, APG Main Post Chapel at 7 p.m.; Dec. 18, Perry Point VA Medical Center in Perryville at 2 p.m. The APG Chapel's Protestant Choir will present "Mary, Did You Know" as the Christmas Cantata. For more information, contact Joyce Wood at 410-278-4333.

## HEALTH & RESILIENCY

### TOBACCO CESSATION BOWL FOR YOUR GOAL

**NOVEMBER 22**  
APG bowling center; 11:30 a.m. to 1 p.m. Event to provide information about tobacco cessation services available to APG community. Attendees will be entered into drawing to win a turkey. To register or for more information, call 410-278-1771/1774 or 410-306-1024.

### BLOOD DRIVE

**DECEMBER 1**  
APG South (Edgewood) recreation center. Starts at 9 a.m.

### HEALTHY LIFESTYLE INFO SESSION

**DECEMBER 8**  
Bldg. 6001, Floor 2, Room 224; 11:30 a.m. to 12:30 p.m. Open to installation employees, contractors, and military. Session has theme of "Tuning into the Ease of Life, Not Dis-ease Info Session. For more information contact Tiffany Grimes at 443-861-7901 or [tiffany.l.grimes.civ@mail.mil](mailto:tiffany.l.grimes.civ@mail.mil).

### CPR & AED TRAINING CLASS

**JANUARY 19**  
Bldg. 6008 Classes at 9 a.m. to noon and 1 to 4 p.m. Hosted by the APG Directorate of Emergency Services. Classes are open to the entire APG community. For more information, contact Scott Kauffman at 410-306-0523 or [scott.p.kauffman4.civ@mail.mil](mailto:scott.p.kauffman4.civ@mail.mil).

## ANNOUNCEMENTS & MISCELLANEOUS

### ALTERNATIVE WORKSPACE DISPUTE SEEKS MEDIATORS

**APPLICATION DEADLINE NOVEMBER 9**  
Training for new Alternative Workplace Dispute Program mediators has been changed to Dec. 12-16 and the application deadline has been extended to Nov. 9. Individuals interested in becoming mediators should email Cathy Davis at [cathy.a.davis4.civ@mail.mil](mailto:cathy.a.davis4.civ@mail.mil) or Ria Johnson at [valaria.r.jonson.civ@mail.mil](mailto:valaria.r.jonson.civ@mail.mil).

### COMBINED FEDERAL CAMPAIGN

**THROUGH DECEMBER 15**  
The Combined Federal Campaign at APG runs Oct. 1 through Dec. 15. This year's installation goal is \$300,000. Make a Difference, Be a Hero. For more information about the campaign or how to donate, contact Sgt. 1st Class Tameka Dixon at [tameka.d.dixon.mil@mail.mil](mailto:tameka.d.dixon.mil@mail.mil) or 410-278-3549.

### APG SOUTH 2016 WATER MAIN FLUSHING

The APG South (Edgewood) 2016 water main flushing schedule is as follows: Through September: E3000-E4000 area; Oct. through Dec.: E5000 area; Nov. 10-12: APG South housing area, Austin Road. For more information, contact Robert Warlick at 410-436-2196 or [robert.w.warlick2.civ@mail.mil](mailto:robert.w.warlick2.civ@mail.mil).

# MORALE, WELFARE & RECREATION



## Upcoming Activities

Learn more about APG MWR activities and services by going online at [www.apgmwr.com](http://www.apgmwr.com).

## SAVE THE DATE

### SKATING AT ICE WORLD

**NOVEMBER 20**  
Ice World in Abingdon, 12:55 to 2:55 p.m. Civilian Welfare Fund to host free ice skating event. Skate rentals are available for \$4.00. For more information call 410-436-4467.

### APG SOUTH TREE LIGHTING & HOLIDAY CELEBRATION

**DECEMBER 2**  
APG South recreation center, 5:15 to 8 p.m. Event includes tree lighting, snacks, carolers and pictures with Santa. For more information, go to [www.apgmwr.com](http://www.apgmwr.com) or call 410-278-4907.

### APG NORTH TREE LIGHTING & HOLIDAY CELEBRATION

**DECEMBER 5**  
Corvias Community Center, 5:15 to 8 p.m. Event includes tree lighting, snacks, carolers and pictures with Santa. For more information, go to [www.apgmwr.com](http://www.apgmwr.com) or call 410-278-4907.

## LEISURE & RECREATION

### “A CHRISTMAS STORY” MUSICAL DISCOUNT TICKETS

**DECEMBER 11**  
Hippodrome Theater, Baltimore, 6:30 p.m. Upper balcony seating, \$39 per ticket. Visit MWR Leisure Travel Services to purchase tickets. For more information, call 410-278-4011.

### DISCOUNT SKI TICKETS AT ROUNDTOP, LIBERTY OR WHITETAIL RESORTS

**2016/2017 SEASON**  
All Mountain Packages includes a lift ticket valid on all lifts, optional class lesson and use of rentals. First Class Learn to Ski includes Ski/Snowboard rentals, beginner's lesson, and a beginner's 8hr lift pass.  
•Weekend/Holiday Extended Lift - \$67  
•Weekend/Holiday All Mountain

## Annual Tree Lightings & Holiday Celebrations

**Friday, December 2, 2016 5:15 - 8 p.m.**  
EA Stark Recreation Center (Edgewood/APG South)

**Monday, December 5, 2016 5:15 - 8 p.m.**  
Hosted By Corvias Military Housing Community Center (Aberdeen/APG North)

Fun for the entire family... includes Tree Lighting  
Snacks - Joyous Voices Carolers- Pictures with Santa

For more information go to [www.apgmwr.com](http://www.apgmwr.com) or call 410-278-4907/4011

Package - \$106  
•Mid-Week/Non-Holiday Extended Lift - \$53  
•Mid-Week/Non-Holiday All Mountain Package - \$90  
•Any Night Lift (5pm-10pm) - \$42  
•Any Night All Mountain Package - \$83  
•First Class Learn to Ski or Snowboard - \$85.50  
•Two-hour Weekend/Holiday Tubing- \$31  
•Two-hour Mid-Week/Non-Holiday Tubing - \$23  
To purchase tickets, visit MWR Leisure Travel Services at the APG North or APG South recreation centers. For more information, call 410-278-4011/4907 or email [usarmy.APG.imcom.list](mailto:usarmy.APG.imcom.list). [apgr-usag-mwr-leisuretravel@mail.mil](mailto:apgr-usag-mwr-leisuretravel@mail.mil)

### CABINS AT SHORE PARK NOW TAKING RESERVATIONS

Reservations are now being accepted. Three-night minimum on holiday weekends, two-night for normal weekends. Visit [www.apgmwr.com](http://www.apgmwr.com) for more information, or call

410-278-4124/5789/2134/2135/2432.

### BINGO

**MONDAY & WEDNESDAY**  
APG Bowling Center; early bird games at 6 p.m., session program at 7 p.m. Eight session games paying out \$50 each. Two nightly jackpots paying out \$200 and \$500. For more information, call 410-278-4041.

## CHILD & YOUTH SERVICES

### FAMILY MOVIE NIGHT

**NOVEMBER 18**  
APG South (Edgewood) recreation center. 6 p.m. Free movie night featuring "Nine Lives." Option to bring your own food. For more information, call 410-278-4011.

### QUARTERLY CYSS PARENT ADVISORY BOARD MEETING

**NOVEMBER 30**  
APG South (Edgewood) youth center, 11:30 a.m. to 12:30 p.m. Parents with children currently

enrolled in a CYSS program are encouraged to attend. Any family who has a child enrolled in a full time CYSS program will receive two parent participation points. For more information call 410-278-2572 or email [myria.i.figueroa.naf@mail.mil](mailto:myria.i.figueroa.naf@mail.mil).

### CREATIVE CANVAS

**DECEMBER 2**  
Bldg. 2407, 6 to 8 p.m. SKIES Unlimited will guide youth and adult through step-by-step painting. Open to 1st through 12th grade students and their parents. Parent participation is required. Supply fee is \$25, includes one youth and 1 adult. \$10 per additional child. For more information, contact [shirelle.j.womack.naf@mail.mil](mailto:shirelle.j.womack.naf@mail.mil) or call 410-278-4589/3250.

### SKIES INTERNATIONAL HOLIDAY COOKIES

**DECEMBER 3**  
Corvias Community Center; 9 a.m. to 1 p.m. Cookies & cocoa with a dash of holiday cheer and a pinch of yum. Join us to bake holiday cookies from around the world. \$15 supply fee. Ages 5 and

up. For more information, contact [shirelle.j.womack.naf@mail.mil](mailto:shirelle.j.womack.naf@mail.mil) or call 410-278-4589/3250.

### SKIES HOLIDAY GIFT WORKSHOP

**DECEMBER 9**  
Corvias Community Center; 1 to 4 p.m. Make your own handmade gifts to give. Bring creative spirit and take home handmade gifts for family and friends. \$15 supply fee, ages 5 and up. For more information, contact [shirelle.j.womack.naf@mail.mil](mailto:shirelle.j.womack.naf@mail.mil) or call 410-278-4589/3250.

### BOWL WITH SANTA

**DECEMBER 17**  
APG bowling center, 1 to 3 p.m. Open to APG community. Kids bowl for free with Santa. Limited space available. For more information, contact Richard Burdette, 410-278-4041.

### STRONG BEGINNINGS, PRE-SCHOOL AND KINDERGARTEN OPENINGS

Participants must be registered with the Parent Central Office. Fees are based on the total family income. For more information, contact the Parent Central Office at 410-278-7479.

## ARMY COMMUNITY SERVICE

### VOLUNTEER MANAGEMENT INFORMATION SYSTEM TRAINING

**DECEMBER 15**  
Blog. 2503, 11 a.m. to noon. Whether a new volunteer or someone who has volunteered for years, it's never too late to register as a volunteer on VMIS. VMIS allows users to apply for volunteer positions on or off post, track all volunteer hours (regardless of location) retain volunteer information, training and awards, and receive recognition at the annual Volunteer Recognition Ceremony. Bring your own laptop (optional) to register on the spot. For more information, or to register, contact Sarah Polanco at 410-278-2464 or [sarah.polanco.civ@mail.mil](mailto:sarah.polanco.civ@mail.mil).



inside

CYBER

Army looks to social-media savvy Soldiers as the linchpin in commanders' efforts to use cyber networks to throw virtual effects at enemies in future battlefields.  
From | B2

MISSION  
COMMAND

An inflatable satellite reminiscent of a beach ball will provide the Army with robust network communications to early-entry and forward operations.  
Inflatable | B3

HEALTH

Walter Reed announces that a recent clinical trial vaccinated 75 healthy adults with a Zika vaccine developed earlier this year by the Army Institute of Research.  
Human | B5

newsbrief

FORUM FOR  
INNOVATIVE  
NOVEL  
DISCOVERY

ARMY TRAINING AND  
DOCTRINE COMMAND

Senior Army leadership continues to emphasize the importance of working closely with industry. As a result, TRADOC and its Army Capabilities Integration Center, or ARCIC, have implemented the Forum for Innovative Novel Discovery, or FIND, as part of a new strategy to engage with industry and bring more small industry businesses into the Army's capability development process.

FIND provides senior Army leaders and small businesses a chance to collaborate and exchange ideas on technologies that could potentially impact future capability development.

The goal is to develop opportunities to discover potentially game-changing technologies through a novel approach with the industry.

A FIND pilot study was conducted during the 2016 Association of the U.S. Army annual meeting and exposition Oct. 3-4 in Washington, D.C. During the meeting, six small businesses presented their research and development efforts at the FIND.

TRADOC will expand its industry engagement strategy by hosting future FIND events. The next FIND event is scheduled to coincide with the March 2017 AUSA professional development forum in Huntsville, Alabama.


For more information, visit <http://www.arcic.army.mil>.

online

 [www.TeamAPG.com/APGNews](http://www.TeamAPG.com/APGNews)

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 ICE system  
<http://ice.disa.mil/>  
Facebook, <http://on.fb.me/HzQlow>



ILLUSTRATION BY ERIC PROCTOR AND AUTUMN KULAGA, ARL

Synthetic biology gives scientists unprecedented control of living cells at the genetic level. External signals, like light, can activate novel, synthetic genes to produce unique functions, such as the ability to integrate into and autonomously control devices.

Army explores synthetic biology

Microbes could be used in biohybrid or cybernetic systems

By JENNA BRADY  
Army Research Laboratory

ADELPHI, Md. -- A U.S. Army Research Laboratory biotechnology scientist recently published an editorial article on the future

directions of synthetic biology research to meet critical Army needs in the Synthetic Biology edition of the Journal of the American Chemical Society.

In the publication, Dr. Bryn Adams, of the ARL Bio-Technology Branch, highlights examples of robust, tractable bacterial species that can meet the demands of tomorrow's state-of-the-art in synthetic biology.

"ACS Synthetic Biology is the premier synthetic biology journal in the world, with a wide readership of biologists, chemists, physi-

cists, engineers and computer programmers," Adams said. "A publication in this journal allows me to challenge the leaders in the field to meet a Department of Defense-specific need: the need for new synthetic biology chassis organisms, or host cell, and tool kits to build complex circuits in them."

Adams believes that synthetic biology can bridge critical technological gaps for the Army and DOD, and will encourage scientists in academia and industry, as well as other

See **BIOTECH**, page B7

ECBC leaders receive senior service pins

EDGEWOOD CHEMICAL BIOLOGICAL  
CENTER

The U.S. Army Edgewood Chemical Biological Center, known as ECBC, held a combined Senior Executive Service, or SES, and Senior Research Scientist, or ST, ceremony in the conference center at APG South (Edgewood), Nov. 10.

Incoming Director of Research and Technology Dr. Eric Moore received his SES pin, and the newly appointed Senior Research Scientist for Bioengineering Dr. Peter Emanuel received his ST pin.

ECBC Director Dr. Joseph Corriveau offici-

ated the event, and Col. Thomas Saltysiak served as master of ceremonies. Maj. Gen. Cedric Wins, commanding general of the U.S. Army Research, Development and Engineering Command, or RDECOM, gave remarks and administered the Oath of Office to each honoree.

The families of Moore and Emanuel looked on with visible pride as the oath was administered, and as Corriveau attached a pin to each man's lapel.

In his welcoming remarks, Corriveau pointed out the depth and breadth of the scientific knowledge of both Moore and Emanuel.

"I've known Dr. Moore more than 20 years.

What a scientist. He has the ability to discuss any aspect of science, and he is perfect for this job."

Much like Moore, Emanuel has a track record of scientific accomplishments.

"Dr. Emanuel has done amazing things at ECBC," Corriveau said. "From managing large, complex international projects such as Project JUPITR in Korea, to miniaturizing genomic sequencing using the MiniION, a device that fits in the palm of your hand. This is an honor and I am proud to be officiating this."

Wins added, "As a commanding general, what I've been struck by is what these two men

See **SENIOR**, page B7

APG labs hosts Marine Corps Systems Command



U.S. ARMY PHOTO BY KELLY WHITE, CERDEC

Jeanette Evans-Morgis (center), deputy to the commander for Systems Engineering, Interoperability, Architectures and Technologies at Marine Corps Systems Command, was invited to meet with the Program Executive Office – Command, Control and Communications Tactical to see testing and simulation capabilities on Nov. 9, 2016, at APG.

During the visit, Evans-Morgis toured the Communications-Electronics Research, Development and Engineering Center's Space and Terrestrial Communications Directorate, or S&TCD, in order to give the Marine Corps a better view of the current capabilities and a better understanding to the direction the Army is going with the common operating environment.

CERDEC's Scott Newman (left), program director of System Engineering and Integration of the S&TCD, shows the C4ISR Systems Integration Lab, or CSIL. The CSIL provides a simulated, advanced lab environment for engineers to assess, evaluate and integrate new capabilities onto current and next generation tactical networks.



# From Facebook to cyber warfare

Field commanders look to tap a social media-savvy force

BY SEAN KIMMONS  
Army News Service

ARLINGTON, Va. — Young, social media-savvy Soldiers may be the linchpin in commanders’ efforts to use cyber networks to throw virtual effects at enemies in future battlefields, according to Army leaders.

“I think there is a better comfort level with our young folks that understand the complexity of the environment in which we are operating,” Col. Jerry Turner, commander of the 2nd Stryker Brigade Combat Team, said at a Nov. 3 discussion on cyber operations, hosted by the Association of the U.S. Army.

“They think in a very network kind of way because that’s how they operate in their daily lives,” he continued. “I really think we have to figure out how to take advantage of it.”

During his 2nd Infantry Division unit’s rotation at Fort Irwin, California, earlier this year, the unit’s use of cyber effects in simulated battle underwent study as part of the Cyber Support to Corps and Below pilot.

Now with five rotations completed under the pilot, cyber officials are reviewing the research, which has the potential to shape doctrine in how maneuver commanders use cyber in battle.

“A network is a warfighting platform, and we need to treat it as such,” Brig. Gen. Patricia Frost, director of cyber for the Army’s Office of the Deputy Chief of Staff, G-3/5/7, said at the discussion. “It is not an [information technology] service.”

According to Frost, the pilot studies have shown that a team of no more than 15 Soldiers, consisting of various ranks and expertise, worked best to advise a brigade commander on offensive and defensive cyber tactics, electronic warfare and information operations against mock enemies.

The expeditionary cyber teams embed and learn the ins and outs of their respective brigade to offer a distinct set of cyber tactics that fit into the commander’s battle plans.

“They’re the ones who understand the battle rhythm, systems and processes of that brigade,” Frost said. “They’re the ones who will take those capabilities and integrate them.”

With cyber assets on hand, Turner said, he was able to make his unit more adaptable and agile in the pilot’s training



U.S. ARMY GRAPHIC

Young, social media-savvy Soldiers may be the linchpin in commanders’ efforts to use cyber networks to throw virtual effects at enemies in future battlefields, according to Army leaders.

scenarios.

They also helped his unit influence enemy movements and neutralize the connective tissue between the enemy’s main force and local forces. “These networks give us options,” he said. “You can’t attack everything I got.”

The brigade commander relied on cyber assets so much that he voiced concern on how to protect them from enemy attacks when they’re let loose on the real battlefield.

“If it was me, one of the Army’s No. 1 priorities would be to protect these networks,” he said. “It’s what makes us, with the current force structure, capable of doing what we’re asked to do.”

In the pilot program, leaders had to sift through a flood of information coming from several cyber assets when quick military decisions were needed.

“I look at the network as very diverse,”

Turner said. “We need to figure out how we fuse all this, because it’s a lot.”

As a whole, the evolving cyber domain has also been difficult for Army strategists to keep up with.

“That’s where we’re struggling,” Frost said. “We are overwhelmed by the volume of data and how it has continued to grow exponentially every year.”

One possible solution is building up the force of cyber operators. In fiscal year 2016, about 130 Army cyber operators were trained. This year, more than 560 operators are expected to graduate from the Army Cyber School at Fort Gordon, Georgia, according to Col. Kenneth Rector, the school’s commandant.

At the school, lessons will focus heavily

on cyber theory and emphasize the need for Soldiers to adapt and embrace new and ever-evolving technologies.

“They have to be invested in lifelong learning,” he said of cyber operators. “Technology that we’re teaching today very likely has a shelf life.”

The unique school setting also gives young Soldiers entering the budding career field a chance to learn from each other and, perhaps, even teach the entire class themselves.

“When they come to the classroom, they might be the expert,” Rector said. “We allow them to have an adaptive environment where there’s some crosstalk in the classroom, and maybe the instructor isn’t [always] the expert.”

## BY THE NUMB#RS

# The Great American Smokeout

The American Cancer Society’s annual Great American Smokeout takes place Nov. 17. The event aims to encourage Americans to give up smoking for good, as tobacco use continues to be the single largest preventable cause of disease and premature death in the United States.

For more information about the event, or for resources to quit smoking, visit [www.cancer.org/healthy/stayawayfromtobacco/greatamericansmokeout](http://www.cancer.org/healthy/stayawayfromtobacco/greatamericansmokeout).

**6,000,000**

Number of annual deaths caused by tobacco use worldwide.

**2,500,000**

Number of people who died from exposure to secondhand smoke between 1964 and 2014.

**4,800**

Amount of chemicals present in a single cigarette.

**24**

Percent of active duty service members that smoke cigarettes.

**10**

Number of years, on average, taken off of a smoker’s total life expectancy.

By Lauren Finnegan, APG News  
[http://www.cdc.gov/tobacco/data\\_statistics/fact\\_sheets/fast\\_facts/](http://www.cdc.gov/tobacco/data_statistics/fact_sheets/fast_facts/)

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A Soldier from the 1-2 Stryker Brigade Combat Team, 7th Infantry Division sets up an inflatable Transportable Tactical Command Communications (T2C2) satellite terminal, during new equipment training on Oct. 4, 2016, ahead of the T2C2 developmental test, at APG.



In a risk reduction effort ahead of the T2C2 operational test, the Army conducted a T2C2 developmental test from mid-October to early November, at APG supported by Soldiers from the 1-2 Stryker Brigade Combat Team, 7th Infantry Division.

# Inflatable satellites provides versatile capability

**By AMY WALKER**  
PEO Command, Control, Communications-Tactical

The Army's new inflatable satellite terminal may look like a giant beach ball, but this unique versatile capability will soon be providing robust network communications and mission command to early entry and forward operations via the Army's tactical communications network backbone, Warfighter Information Network-Tactical (WIN-T).

The Army has been conducting multiple risk reduction exercises for both the jumpable lite and air-droppable heavy variants of this capability — known as Transportable Tactical Command Communication, or T2C2 — ahead of the operational test currently scheduled for early calendar year 2017.

Both versions of T2C2 are inflatable, meaning they can provide a larger dish size with increased capability and bandwidth efficiency, in a smaller transport package.

"T2C2 directly supports the Army's Operating Concept, which calls for greater unit agility and uninterrupted mission command at every stage of Army operations," said Lt. Col. Jenny Tam, product manager for WIN-T Satellite Communications (SATCOM), which manages T2C2 for the Army. "T2C2 is easy-to-deploy and provides high-bandwidth network connectivity for early entry operations all the way through mature operations at the tactical edge of the battlefield."

During Joint Forcible Entry missions, before boots ever hit the ground, early entry units such as the Global Response Force, utilize the Army's Enroute Mission Command (EMC) capabilities while in-flight, to obtain the situational awareness they need to parachute into the fight. Once the airfield is

seized, T2C2 Lite can be rapidly set up to provide continuity of mission command during the initial phases of operation. Later in the mission when follow-on forces bring in larger network assets, commanders can extend the battle space using T2C2 Heavy to support company-size forward operating bases and special team size elements that need high-bandwidth network capability.

The Army's tailorable suite of network communications equipment enables Soldiers to bring their command post with them, at every stage of operations, no matter where the battle requires them to go.

"T2C2 delivers operational flexibility and speed of maneuver to commanders," Tam said. "They can use this system to send smaller elements forward, leaving the larger network operating systems secure in the rear, at the main command post or even all the way back at home station."

The upcoming T2C2 Initial Operational Test and Evaluation (IOT&E) will support a full rate production decision, currently expected in late fiscal year 2017. A successful decision will enable the Army to begin fielding the capability. As part of the risk reduction efforts for the operational test, the Army used its Limited Rate Initial Production (LRIP) assets to successfully conduct a T2C2 developmental test (DT) from mid-October to early November, at APG. Soldiers from 1-2 Stryker Brigade Combat Team (SBCT), 7th Infantry Division supported the event along with multiple Army Organizations including Program Executive Office, Command, Control, Communications-Tactical (PEO C3T), Training and Doctrine Command (TRADOC), Electronic Proving Ground, the Army Test and Evaluation Command and industry.

To replicate various operational scenarios and to test different T2C2 capabilities during

the DT, Soldiers conducted over-the-air tests between T2C2 and on-site WIN-T network systems and APG integration facilities, as well as with the Battle Lab at Fort Gordon, Ga., which simulates a WIN-T Regional Hub Node for testing and training exercises.

Further T2C2 risk reduction events include live, over-the-air testing in late November to mid-December.

The Soldiers who supported the DT were a typical subset of the general purpose users T2C2 is designed to support. After just two weeks of new equipment training they were able to rapidly set up, acquire the satellite and start communicating with the system.

"T2C2 is easy to operate, quick to set up and take down, and easy to maneuver from place to place," said Spc. Jacob Goff, 296th Brigade Support Battalion, 1-2 SBCT, who supported the DT. "It will definitely provide a lot more agility over what we have now."

T2C2 is an Acquisition Category III program of record that was established in May 2014 to meet immediate fielding requirements for an Army satellite communications (SATCOM) terminal that can be jumped with Airborne units, and/or deployed via commercial aircraft, and also support forward company command posts. It provides unclassified, classified, or coalition network connectivity that extends mission command.

"T2C2 enables commanders to conduct intelligence, surveillance, reconnaissance, provide fires and general command and control, with a very light weight, small volume package that can fit into a couple of soft side cases if needed, compared to other SATCOM systems that weighs thousands of pounds that provide the same capability," said Maj. Jonathan Lipscomb, assistant product manager for WIN-T SATCOM.

Soldiers in remote locations can leverage

T2C2 to utilize mission command systems such as Command Post of the Future (CPOF), Joint Battle Command-Platform (JBC-P), Distribute Common Ground System-Army (DCGS-A), or communications systems such as whiteboard, chat, video, Voice Over Internet Protocol (VOIP) calls.

Additionally, T2C2 takes advantage of both commercial and military satellites to further increase operational flexibility, and military satellites also increase throughput and reduce the Army's reliance on expensive commercial satellite time. The unique inflatable satellite antenna can withstand extreme weather conditions, air drops and even bullets.

"The system can be used by any type of unit regardless if it is an engineering, infantry, or cavalry unit, and anyone can set it up, regardless of their MOS in the Army," said Pfc. Bennett Livingston, 23rd Brigade Engineer Battalion, 1-2 SBCT. "It is impressive what this small piece of technology can do."

Until T2C2 is fielded, upgraded versions of Secure Internet Protocol Router Network/Non-secure Internet Protocol Router (SIPR/NIPR) Access Point (SNAP) satellite terminals and the even smaller carry-on luggage-sized Global Rapid Response Information Packages (GRRIPs) are serving as the bridging capability for the T2C2 Heavy and Lite respectively.

"T2C2 facilitates the fusion of maneuver, fires, intelligence, and sustainment information at the front edge of the battlefield or in remote locations in lightweight, highly transportable configurations," said James Sawall, PM WIN-T's T2C2 Project Lead. "This unique solution fulfills Army requirements and will provide commanders the communication capacity, flexibility, and maneuverability they need to be successful in today's complex missions."

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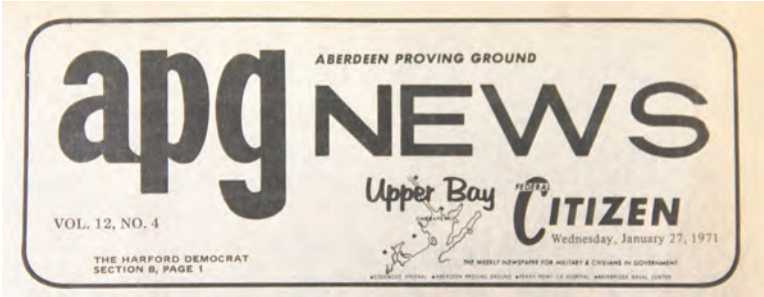
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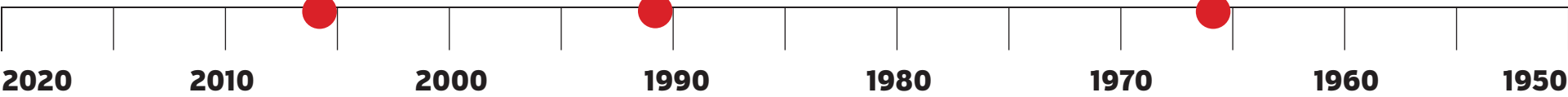


# THIS WEEK IN APG HISTORY



Take a look back in time as the APG News explores what made the headlines around APG during this week 10, 25 and 50 years ago. This week's APG News masthead is from 1971.

By YVONNE JOHNSON, APG NEWS



## 10 Years Ago

Nov. 16, 2006

(From left) Gen. William S. Wallace, commander, U.S. Army Training and Doctrine Command, and Brig. Gen. Rebecca S. Halstead, salute during the change of command ceremony making Halstead the 34th chief of Ordnance and commander of the U.S. Army Ordnance Center and Schools.



## 25 Years Ago

Nov. 13, 1991

Dr. Jack Atwater, Ordnance Museum director points to a detail on the memorial dedicated to the 243rd Field Artillery Battalion to World War II veteran, Ken McCauley, a former member of the unit.



## 50 Years Ago

Nov. 17, 1966

Maj. Kenneth Stinson, executive officer, U.S. Army Ballistic Research Laboratories, fourth from right, poses with eight BRL employees after they received federal service awards.

# APG team wins prestigious Army award

Groundbreaking tactical network vulnerability analysis earns Wilbur B. Payne award

By KELLY WHITE  
Communications-Electronics Research, Development and Engineering Center

The U.S. Army Communications-Electronics Research, Development and Engineering Center, or CERDEC, received the 2016 Wilbur B. Payne Memorial Awards for Excellence in Analysis - Special Topic Category, Nov. 1 during the Army Operations Research Symposium at APG.

The Wilbur B. Payne award has three categories: large group, small group and special category. The Army's Deputy Chief of Staff G-8 determined the winners.

CERDEC's Space and Terrestrial Communications Directorate, or S&TCD, won for a Communications Vulnerability Analysis in which they conducted a groundbreaking systems-of-systems network vulnerability analysis on the Army's tactical network.

S&TCD's engineering and investment strategy provides technical solutions for the Soldier to perform uninterrupted communications, defensive cyber, and networking to improve maneuver and expeditionary operations.

The CERDEC S&TCD team consisted of six members to include John Willison, John Boksiner, Seth Spoenlein, Wayne Schoonveld, Richard Hoffman and Eugene Ivanyutin.

"Our team is dedicated to developing innovative solutions in support of the Soldier," said John Willison, S&TCD director. "Winning such a prestigious award brings great credit to our directorate and CERDEC."

The S&TCD team traveled to Fort Leavenworth, Kansas and presented their analysis to a panel who reviewed and compared the findings to that of two other nominations.

During the ceremony, the team was recognized for their "significant advancements and innovation from August 2015



U.S. ARMY RDECOM PHOTO

CERDEC's Space and Terrestrial Communications Directorate received the Wilbur Payne Award – Special Category for a Communications Vulnerability Analysis in which they conducted a groundbreaking systems-of-systems network vulnerability analysis on the Army's tactical network.

through February 2016 in developing a risk-based assessment strategy," as written on the award certificate.

"The network is a critical component in how we fight in the 21st century," said Seth Spoenlein, S&TCD associate director for Technology, Planning, and Outreach. "While we often focus on the specific technology solutions, the analysis the team performed provided a comprehensive method to quantitatively relate technology to operational

capabilities. This allows leaders to make informed trade space decisions."

According to the Army Operations Research Symposium website, Dr. Wilbur B. Payne was a pioneer in Army Operations Research and the preeminent leader in the field for three decades. Dr. Payne was an enthusiastic advocate for applying methods of science to practical defense decision making, enforcing the highest standards of professionalism, and nurturing and mentor-

ing operations research analysts.

"Maintaining a reliable, robust tactical network is critical for Soldiers to communicate both now and into the future, and the S&TCD team has been instrumental in providing technical solutions toward this effort," said Maj. Gen. Cedric Wins, RDECOM commanding general. "This award recognizes the team's hard work and dedication to the RDECOM program and the Army overall."

## WORD OF THE WEEK

# Hegemony

Pronounced: hi-jem-uh-nee, hej-uh-moh-nee  
Part of Speech: Noun

### Definition:

Leadership or predominant influence exercised by one nation over others, as in a confederation  
Dominance by one social group over another, such that the ruling group, or hegemon, acquires some degree of consent from the subordinate  
The social, cultural, ideological, or economic influence exerted by a dominant group  
(Especially among smaller nations) aggression or expansionism by large nations in an effort to achieve

## ACRONYM OF THE WEEK

# GLERL

The Great Lakes Environmental Research Laboratory, GLERL, also known as NOAA-GLERL, a division of the National Oceanic Atmospheric Administration, and its partners conduct innovative research on the dynamic environments and ecosystems of the Great Lakes and coastal regions to provide information that leads to safe and sustainable ecosystems, ecosystem services, and human communities. The NOAA –GLERL was designated April 25, 1974, and established to provide a focus for NOAA's environmental and ecosystem research in the Great Lakes and coastal marine environments. Since then, GLERL has made important scientific contributions to the understanding and management of the Great Lakes and other coastal ecosystems. Today, GLERL research is carried out within three integrated science branches: Observing Systems and Advanced Technology, Ecosystem Dynamics, and Integrated Physical and Ecological Modeling and Forecasting. They collaborate to collect the necessary information to develop and advance predictions of interconnected ecological and human systems in the Great Lakes.



By Yvonne Johnson, APG News  
Source: <https://www.glerl.noaa.gov//>



# Human trials begin for Army-developed Zika vaccine

By **CHERYL PELLERIN**  
DOD News

WASHINGTON – Walter Reed officials have announced that during a recent clinical trial at the Walter Reed Army Institute of Research, 75 healthy adults were vaccinated with a Zika virus vaccine that the institute’s scientists developed earlier this year.

The Phase 1 trial will test the safety and immunogenicity — the ability of the vaccine to trigger an immune response in the body — of the purified, inactivated Zika virus vaccine called ZPIV. The vaccine is being tested at WRAIR’s Clinical Trial Center in Silver Spring, Maryland.

“The Army has moved efficiently from recognizing Zika virus as a threat, producing ZPIV for use in animals and demonstrating its effectiveness in mice and monkeys, producing ZPIV for human testing, and now initiating clinical trials to establish its safety and build the case for subsequent efficacy trials,” Army Col. (Dr.) Nelson Michael, director of WRAIR’s Military HIV Research Program, or MHRP, and Zika program co-lead, said in a statement.

Efficacy refers to the vaccine’s ability to demonstrate a health effect when tested in a clinical trial.

“All of this,” he added, “was done in 10 months.”

Dr. Kayvon Modjarad, Zika program co-lead and associate director for emerging infectious disease threats at WRAIR’s MHRP, said the Army was able to move so quickly in developing, manufacturing and testing a Zika vaccine “because of its extensive experience with this vaccine platform and long standing investments in the understanding and mitigation of flaviviruses like yellow fever, dating back to the founding of WRAIR.”

## DOD Zika response

WRAIR officials say this study is part of the Defense Department response to the ongoing Zika outbreak in North and South America and Southeast Asia.

For service members, there are concerns about infection during deployment and travel, but also in the continental United States, where most military installations are concentrated in southern states. There, climate conditions and mosquito populations favor Zika transmission, WRAIR officials say.

As of Nov. 2, according to the Centers for Disease Control and Prevention, 149 cases of Zika infection were confirmed in the military health system, including four pregnant service members and one pregnant family member.

Zika infection during pregnancy, the CDC says, can cause a birth defect of the brain called microcephaly and other severe fetal brain defects.



CDC PHOTO BY JAMES GATHANY

Zika virus is transmitted to humans primarily through the bite of an infected Aedes species mosquito — Aedes aegypti, shown here, and Aedes albopictus. The same mosquitoes spread dengue and chikungunya viruses.

Other problems have been detected among fetuses and infants infected with Zika virus before birth, such as defects of the eye, hearing deficits and impaired growth. And reports have increased about Guillain-Barré syndrome, an uncommon sickness of the nervous system, in areas affected by Zika, CDC says.

But even Zika infections without symptoms “can lead to severe birth defects and neurological complications,” Zika study principal investigator Army Maj. (Dr.) Leyi Lin said, adding, “A safe and effective Zika vaccine that prevents infection in those at risk is a global public-health priority.”

## Zika and other flaviviruses

Flaviviruses like Zika are found mainly in mosquitoes and ticks and cause widespread morbidity and mortality worldwide. Other

mosquito-transmitted viruses that are members of the flavivirus genus include yellow fever, or YF, dengue fever, Japanese encephalitis, or JE, and West Nile viruses, according to the CDC web page.

“We want to assess the safety and immune response of the ZPIV vaccine in JE and yellow fever YF vaccine recipients because these vaccines may alter the response to the ZPIV vaccine,” Lin said.

“Uniquely,” he added, “illness as a result of natural infection from JE, YF or Zika could be more severe when prior flavivirus infection or vaccination exists. Our study assesses co-vaccination to learn how to reduce risk when protecting against circulating flaviviruses.”

This is important for service members who are vaccinated against other flaviviruses and then stationed in or deployed to areas where Zika is becoming endemic, WRAIR

scientists say.

## Zika vaccine platform

WRAIR’s inactivated flavivirus vaccine platform was the same technology the institute used to create its Japanese encephalitis vaccine, licensed in 2009.

An earlier preclinical study found that rhesus monkeys vaccinated with ZPIV developed a strong immune response and were protected against two strains of Zika virus.

The National Institute of Allergy and Infectious Diseases, or NIAID, part of the National Institutes of Health, helped identify the viral strain used in the ZPIV vaccine, supported the preclinical safety testing and is sponsoring the conduct of this trial.

WRAIR, NIAID and the Department of Health and Human Services’ Biomedical Advanced Research and Development Authority, or BARDA, have established a joint research collaboration agreement to support the vaccine’s development.

The Pilot Bioproduction Facility at WRAIR manufactured the ZPIV vaccine being used in Phase 1 clinical studies, and the Army recently signed a cooperative research and development agreement to transfer the ZPIV technology to Sanofi Pasteur to explore larger scale manufacturing and advanced development. BARDA recently awarded a six-year contract to Sanofi Pasteur to further develop this vaccine to licensure, according to the WRAIR release.

## Other ZPIV trials

WRAIR’s ZPIV candidate also will soon be part of an NIH trial that began in August. The NIH vaccine contains DNA that instructs volunteers’ cells to make certain Zika proteins that then illicit an immune response. As part of that study, WRAIR’s ZPIV vaccine will be given to volunteers as a booster after they receive the NIH DNA vaccine, WRAIR officials say.

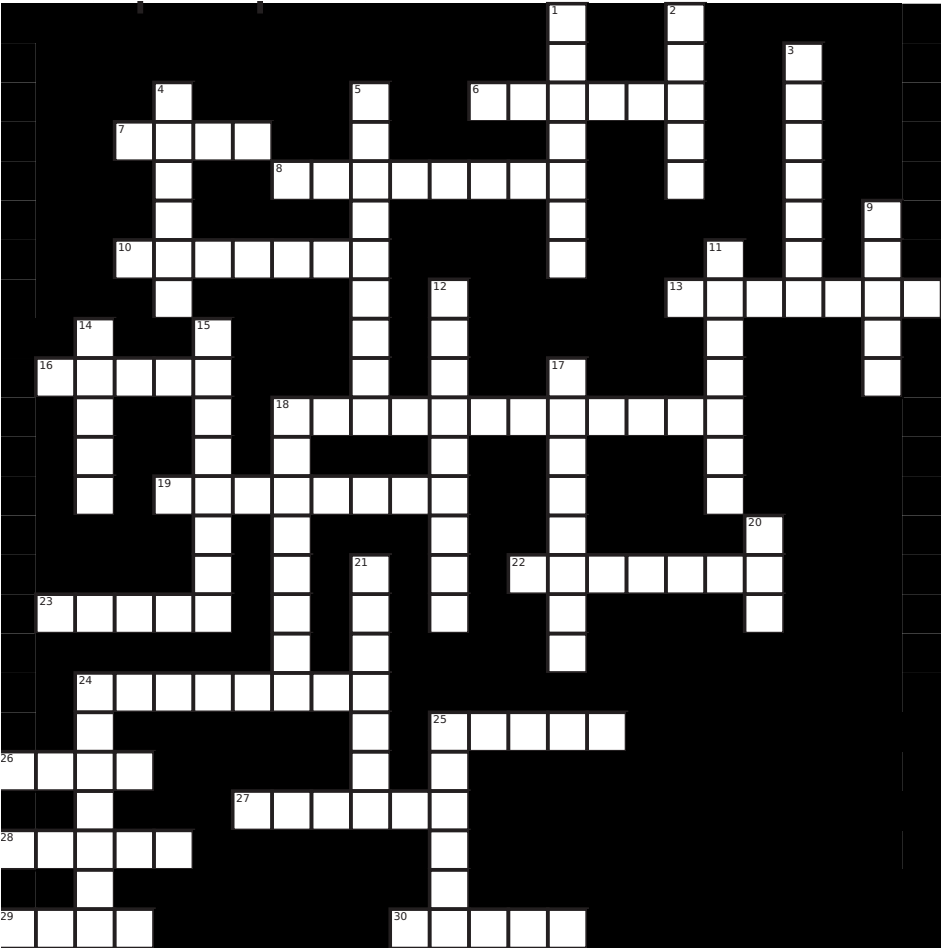
Three more Phase 1 trials using ZPIV are scheduled to begin this year, the WRAIR release noted:

— St. Louis University researchers, through the NIAID-funded Vaccine and Treatment Evaluation Units network, will examine the optimal dose of the vaccine to be used in larger studies.

— Beth Israel Deaconess Medical Center and Harvard Medical School researchers will evaluate the safety and immune response from a compressed vaccine schedule.

— The Ambulatory Center for Medical Research, part of Ponce Health Sciences University in Puerto Rico, will examine the vaccine’s safety and immune response in participants who have already been naturally exposed to Zika or dengue viruses.

The WRAIR trial that began Monday is sponsored by NIAID and funded by the Army and the Defense Department.



## THE APG CROSSWORD

# National American Indian Heritage Month

**November is National American Indian Heritage Month. Complete this trivia puzzle to check your knowledge about the history and culture of the nation’s indigenous peoples.**

By **RACHEL PONDER**  
APG News

### Across

6. In modern times, sweat \_\_\_\_\_ are used by some American Indians for ceremonial stream baths, healing and prayer.

7. A room used by Pueblos for religious rituals and political meetings.

8. This contact sport, which is very popular in Maryland, originated from a tribal game played by eastern Woodlands American Indians and by some Plains Indians tribes in what is now Canada.

10. A \_\_\_\_\_ circle is a communication technique used by some American Indians to solve problems.

13. He was the first American Indian to make contact with the pilgrims of the Plymouth Colony.

16. Many historians believe that the U.S. Constitution was partially modeled after the Great Law of \_\_\_\_\_, the constitution of the Iroquois Confederacy.

18. Traditional protective baby-carriers used by some American Indian tribes.

19. A gift-giving feast practiced by indigenous peoples of the Pacific Northwest Coast of Canada and the U.S.

22. The first American Indian woman to become a physician in the U.S. In 1913 she founded a reservation hospital in Nebraska that was later named in her honor.

23. The porcupine hair \_\_\_\_\_ is the traditional male headdress for several American Indian tribes in what is now present-day New England, the Great Lakes and Missouri River regions.

24. This Shawnee chief opposed white settlement during the early 1800s. During the War of 1812, he opposed the U.S. and became an ally of Britain.

25. \_\_\_\_\_ poles are monumental sculptures carved on poles or pillars with symbols or figures made by indigenous peoples of the Pacific Northwest coast of North America.

26. A Hunkpapa Lakota Sioux holy man and tribal chief, Sitting \_\_\_\_\_ was best known for leading his people to victory during the Battle of Little Bighorn, June 25-26, 1876.

27. \_\_\_\_\_ Nation is the largest federally recognized American Indian reservation in the U.S.

28. The \_\_\_\_\_ Corn Ceremony is an annual ceremony that is associated with the corn harvest. This celebration includes feasting, dancing, fasting and religious observances.

29. This U.S. president established November as National American Indian Heritage Month.

30. He was an Oglala Lakota activist for the rights of American Indian people, and appeared as an actor in numerous films including “The Last of the Mohicans.”

### Down

1. This Cherokee actor, humorist, newspaper columnist, and social commentator was known as “Oklahoma’s Favorite Son.”

2. Midwestern American Indians greatly relied on the American \_\_\_\_\_ for food, shelter, tools and more.

3. This Patuxet tribe member is credited with helping the pilgrims survive their first winter in what is now Massachusetts.

4. A domed dwelling formerly used by certain American Indian and First Nations tribes. Today this shelter is used for ceremonial purposes

5. This Lemhi Shoshone woman acted as a guide and interpreter during the Lewis and Clark Expedition.

9. A vision \_\_\_\_\_ is a rite of passage in some American Indian cultures. It is usually

only undertaken by young males entering adulthood.

11. In 1890, this U.S. president signed the Indian Removal Act, which authorized him to negotiate with southern American Indian tribes for their removal to federal territory west of the Mississippi River in exchange for their ancestral homelands.

12. The daughter of an Osage tribe member, she is considered America’s first major prima ballerina.

14. Located in Colorado, Mesa \_\_\_\_\_ is a national park and World Heritage Site that protects well-preserved Ancestral Puebloan cliff dwellings.

15. He was a half-Cherokee silversmith who invented a simple form of writing consisting of 86 symbols.

17. Beginning in the late 19th century, many American Indian children attended government- or church-operated \_\_\_\_\_ schools.

18. The term “Indian” originated with this explorer who thought he had landed in the East Indies.

20. Oklahoma derives from Choctaw words “okla” and “humma,” meaning “\_\_\_\_\_ people.”

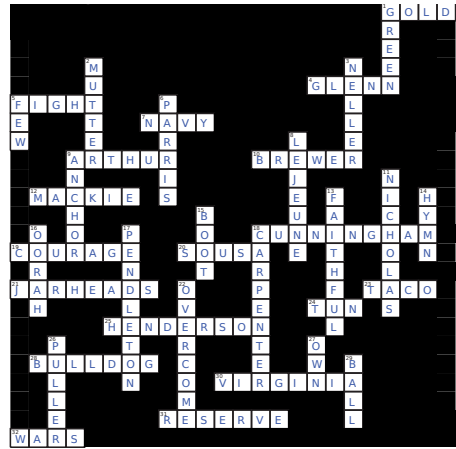
21. A spirit being in Western Pueblo religious beliefs.

24. During World War II, Navajo Code \_\_\_\_\_ created an unbreakable secret code.

25. A member of the Sac and Fox Nation, he won Olympic gold medals in 1912, and played professional football, baseball and basketball.

## Think you solved last week’s puzzle?

**Check out the solution below**  
Solution to the Nov. 10 puzzle





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# BIOTECH

*From page B1*

military laboratories, to work to break down the barriers to fieldable synthetic biology that will move us closer to autonomous biohybrid devices that give unprecedented capabilities to the Army and to the Soldier.

“Synthetic biology has been identified by the Department of Defense as a ‘substantially important’ area because it has major impacts in a variety of fields, including material synthesis, sensing and human performance,” Adams said.

According to Adams, the emergence of synthetic biology in the last 15 years has revolutionized scientists’ ability to rationally engineer genetic circuitry in living organisms.

“Large, complex circuits can be designed using computer programming approaches, and combined with DNA synthesis technologies, sophisticated novel functions can now be performed by cells,” Adams said.

Adams stated the outcome is the ability to produce unprecedented biological capabilities.

“For the first time, we can engineer microbes by delivering rationally designed, precisely regulated, highly complex, multi-gene pathways to program autonomous biological systems for an unlimited number of potential functions,” Adams said.

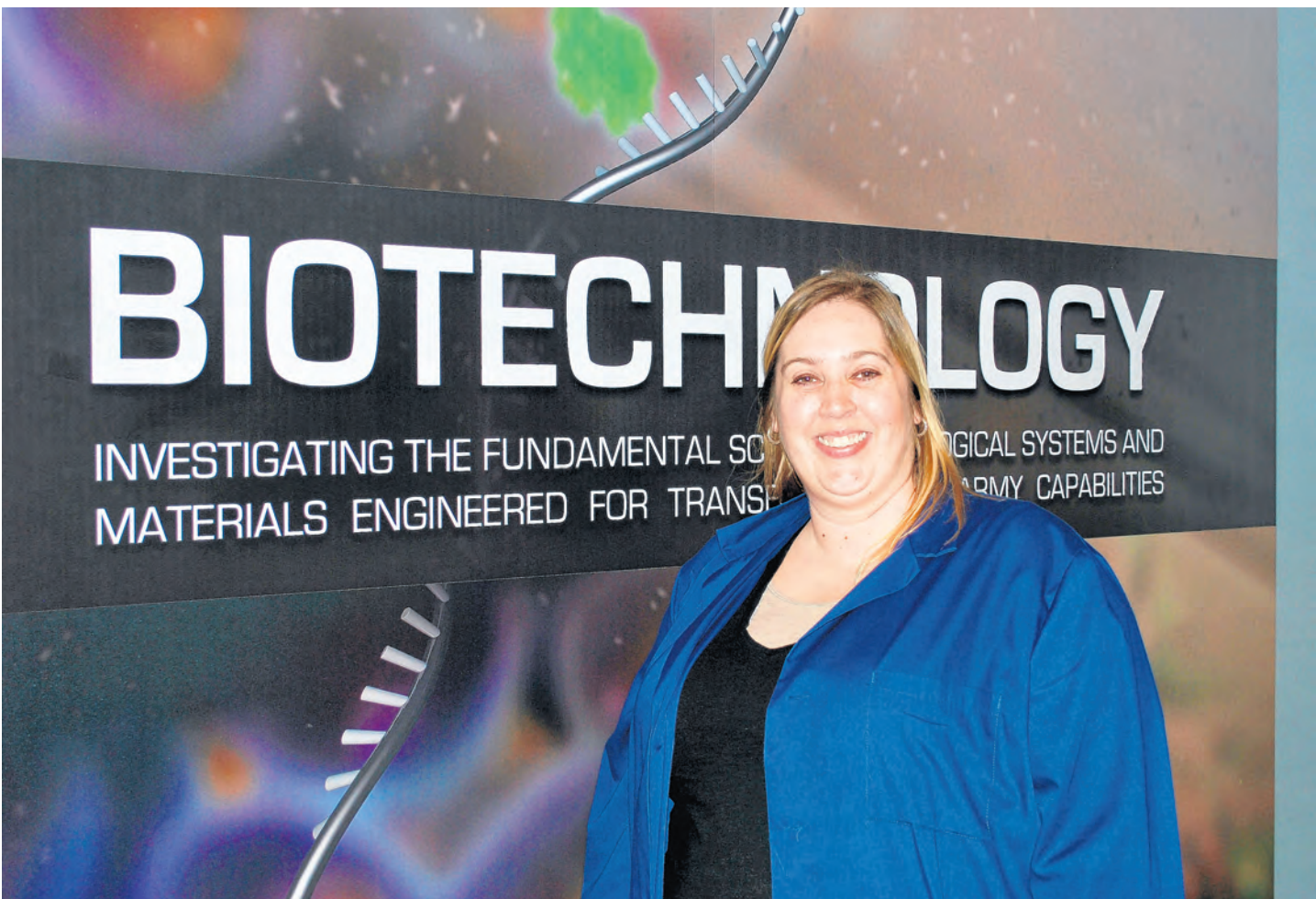
Adams’ focus as a member of the Biomaterials Team is to incorporate the genetic circuitry that allows microbes to be wholly integrated into biohybrid or cybernetic systems, where the organism’s function is a critical component of the system.

“Living organisms have a unique set of capabilities as they can reproduce, repair and heal themselves, and can sense, respond and adapt to their environment,” Adams said. “These are processes that are controlled at the genetic level and are harnessed through synthetic biology. Integrating these types of engineered cells into devices enables autonomous biohybrid systems to be developed with unparalleled capabilities.”

The potential systems that could be developed include synthetic photosynthetic genetic circuits, which could be introduced into the bacteria integrated into electronic devices to power them.

Other robust bacteria could be genetically engineered with biological tasting or smelling capabilities that interface with the electronics to form an advanced biosensor.

Custom consortia, or mixed-cell populations, could be tailored to produce bio-



Dr. Bryn Adams, ARL biotechnology scientist, recently published a scientific challenge for game-changing research in the Synthetic Biology edition of the Journal of the American Chemical Society.

chemicals on demand under field conditions, as a probiotic to protect Soldiers from infection, or genetically tuned to form smart, living paints.

According to Adams, in order to move synthetic biology to the field, where it will benefit the Soldier, scientists need to use a host organism, or chassis, that can survive and thrive under field conditions.

Synthetic biology has been largely built upon E. coli, and complex genetic systems continue to be engineered in this bacterium. However, E. coli is highly adapted to laboratory conditions and is no longer a suitable synthetic biology host for the field.

“The caveat is that engineered genetic circuits developed in E. coli cannot simply be ported into a new host bacterium, even one that is closely related to E. coli, and be functional,” Adams said. “ARL’s role is to design functional, DOD-relevant genetic systems and develop methods to introduce

the synthetic systems into fieldable organisms.”

This is a huge barrier in moving synthetic biology from the laboratory to the field, and Adams is currently transitioning in a novel broad spectrum DNA transfer system developed by the Massachusetts Institute of Technology.

Adams will utilize this system to introduce sense-respond-self-destruct genetic circuits into fieldable bacterial species.

Speaking of MIT, earlier this year along with seven other ARL awardees, Adams won a Laboratory University Collaboration Initiative, or LUCI, award, which has enabled her to work with Professor Chris Voigt at MIT on “Bacteria systems for sensing and responding functions.”

Each researcher selected for the LUCI program will receive \$600,000 over a three-year period to conduct their basic research projects.

“LUCI has definitely enhanced my research in synthetic biology,” Adams said. “It has strengthened both ARL and my own ties to one of the pioneers in synthetic biology, Dr. Chris Voigt, as well as his postdoctoral research fellows and graduate students at MIT. It has also connected me with fellow synthetic biology LUCI winner, Dr. Sarah Glaven at the Naval Research Laboratory, as we both work toward advancing synthetic biology in the DOD labs.”

Through her collaboration with the Voigt lab, Adams has been able to transition technology to ARL that allows her to begin developing the next generation of Army-relevant synthetic biology chassis.

“I have gained both new technical expertise and knowledge in engineering new chassis bacteria that will aid me in developing ARL as an emerging leader in fieldable synthetic biology,” Adams said.



Edgewood Chemical Biological Center’s incoming Director of Research and Technology Dr. Eric Moore receives his Senior Executive Service pin from his wife, April Moore, during a ceremony at APG South (Edgewood), Nov. 10, 2016.



Newly appointed ECBC Senior Research Scientist for Bioengineering Dr. Peter Emanuel receives his Senior Research Scientist flag during a ceremony at APG South, Nov. 10, 2016.

# SENIOR

*From page B1*

do every day to empower, unburden and protect the warfighter. We recognize that their performance over their careers has led to this point.”

Moore and Emanuel gave heartfelt thanks to their families for helping them to reach senior level federal service.

“If you have good people around you, you are very fortunate, and I have been extremely fortunate to have this family behind me. I call them Team Moore,”

Moore said.

For his part, Emanuel pointed out that most of his family either has or is in the process of earning a Ph.D. in science, making scientific research, “the family business.”

“We’re here for a reason, to make a commitment to life, be of service, to make this world better,” reflected Moore. Turning to his family, he added, “I want to make you proud and do more with each step.”

Emanuel said, “This new position allows me to give back to the nation the powers that God gave me.”

The Senior Executive Service was estab-

lished in 1978 to be a corps of executives to serve in key governmental positions not filled by top presidential appointees. It is the highest civilian service in the government and is extended only to those federal employees who demonstrate professional integrity, a broad perspective, and a commitment to the highest ideals of public service. The SES Corps is comprised more than 7,000 members. The Department of Defense employs approximately 460 members of the SES, who are accorded general officer status.

The Senior Research Scientist is a unique category of federal jobs established in 1990

to replace GS-16, 17, and 18 of the General Schedule. It covers non-executive positions classified above the GS-15 level that involve performance of high-level research and development in the physical, biological, medical, or engineering sciences, or a closely-related field. ST positions may include some supervisory and related managerial duties, provided that these duties occupy less than 25 percent of the incumbent’s time. There are fewer than 500 STs in the entire federal government, and many of the federal government’s most renowned scientists and engineers serve in ST positions.

# DID YOU KNOW?

## Joseph “Joe” Medicine Crow, the last living Plains Indian war chief, was the first Native American recipient of the Presidential Medal of Freedom.

Born Oct. 27, 1913, Dr. Joseph “Joe” Medicine Crow was the Crow Tribal Historian and elder of the Crow tribe. The descendant of a survivor of the Battle of Little Big Horn, Crow shared his knowledge in one of several books he penned, including “Crow Nation of Native America.”

Medicine Crow earned an associate degree from Bacone College in 1936; a bachelor’s degree from Linfield College in Muskogee, Oklahoma in 1938; a master’s degree in anthropology from the University of Southern California in 1939, making him the first member of the Crow tribe to obtain a master’s degree. He began coursework toward a doctorate but did not complete it due to the outbreak of World War II.

For his exploits in Europe during the war, he earned the Bronze Star Medal and the French Legion of Honor.

After leaving the Army, Medicine Crow returned to the Crow Agency where he was appointed tribal historian and anthropologist in 1948. He gained fame in this role and was featured in numerous TV documentaries including the 2007 PBS series, “The War.”

Medicine Crow’s master’s thesis, “The Effects of European

Culture Contact upon the Economic, Social, and Religious Life of the Crow Indians,” remains the most widely read source on Crow culture. His self-written biography, “Counting Coup: Becoming a Crow Chief on the Reservation and Beyond,” was chosen as a “Notable Tradebook for Young People” by the National Council for the Social Studies in 2007. He has also received honorary doctoral degrees from the University of Southern California, Rocky Mountain College and Bacone College where he served as an ambassador and commencement speaker for more than 50 years.

On Aug. 12, 2009, Medicine Crow was awarded the Presidential Medal of Freedom - the highest civilian honor awarded in the United States - from President Barack Obama. During the White House ceremony, Obama called Medicine Crow a bacheitche, a “good man” in Crow.

Medicine Crow continued to write and lecture at universities and public institutions. He lived on the Crow Reservation in Lodge Grass, Montana, until his death earlier this year, on April 3, 2016, at the age of 102. He is survived by his only son Ron Medicine Crow; daughters Vernelle Medicine Crow and Diane Reynolds; and step-daughter Garnet Watan.

<http://www.worldwisdom.com>  
<https://en.wikipedia.org>



Dr. Joseph “Joe” Medicine Crow, the last living Plains Indian War Chief, with President Barack Obama, Aug. 12, 2009.